

**COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Tidewater Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS
Significant Permit Modification**

United States Gypsum Company
Norfolk Plant
Permit No. TRO - 60234

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, United States Gypsum Company has applied for a significant permit modification to the Title V Operating Permit for its Norfolk facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: May 15, 2007

Air Permit Manager: _____ Date: May 15, 2007

Regional Director : _____ Date: May 15, 2007

REQUESTED MODIFICATION

The Department received, on April 25, 2005, a request to issue a State Operating Permit for the United States Gypsum Norfolk Plant. The facility wanted to include in the permit, all previously unpermitted and/or existing emission units and assign emission limits to these.

In the process of drafting the SOP, the facility was given a plantwide fuel throughput and the criteria pollutants from the combustion of the fuel were calculated and emission limits were assigned. The previously permitted units are not listed in the State Operating Permit, having separate NSR permits for these, but the emission contributions from these other operations are included in the facility emissions cap. The SOP did not include any modifications or changes in the method of operation at the plant. The SOP contained synthetic minor limits with respect to PSD and NA permitting. In the processing of the SOP, the ‘grain-loading’ emission factors were found to be much more consistent than past attempts to assign a control efficiency to each fabric filter at the plant. The process airflows that are used to estimate the particulate emissions are steady and predictable. A stack test was prescribed for a representative fabric filter to verify the grain loading.

The facility has been operating under several NSR permits for a few emission units and the Title V permit, effective June 17, 2004. None of the NSR permits were superseded by the SOP, but when a new plant is completed during 2007, this Title V permit will become invalid along with all permits for the old plant; (NSR Permits issued; April 5, 1994, May 24, 1994, July 28, 2000, August 13, 2002, September 8, 2002, August 13, 2003 and September 2, 2005). On the day that the new plant begins production, operation will be based solely on the NSR permit issued June 19, 2006. At that point, the facility has 12 months to submit an application for a new Title V permit, based on the new plant.

Federal requirements include the NSPS, Subpart OOO due to the new crusher that was added in the NSR permit for the ‘Updated Reclaim System’. Several of the permitted emission units are also subject to CAM. A CAM Plan is attached to the permit and some of the important provisions of the plan appear in the permit as ‘CAM’ requirements.

CHANGES TO THE TITLE V OPERATING PERMIT

Front Page – Permit will now include a date for when the permit was amended.

Section I, Facility Information – The Contact Person is now Mr. Chris Young; changed from Trent Martin in the 2003 permit.

Section II – All of the references to No. 6 fuel oil for the fuel burning equipment have been removed and No. 6 fuel oil has been discontinued for the entire facility.

The applicable permit date for the previously unpermitted equipment has been added to the equipment list; September 2, 2005.

Section III – This is a new section to include conditions from the recently issued State Operating Permit, dated September 2, 2005. Only condition No. 19 was streamlined out because the testing had already been completed on the representative dust collector.

The remaining sections of the permit are identical to the previous Title V permit with the exception of having to increase the Section Number by one. In other words in the previous Title V permit, the section for the Dunnage Machine permit was Section III. In the new Title V amendment, the Dunnage Machine conditions are Section IV. Therefore, all the remaining NSR permit sections increased by one number.

The Title V boilerplate effective November, 2006 was used to draft this Title V permit.

Section X, Facility Wide Conditions – This section was changed to comply with the new Title V boilerplate language.

The following conditions under the Facility Wide Section were deleted or moved to the General Conditions section of the permit;

Notification for Control Equipment Maintenance; deleted by new bp.

Notification for Facility or Control Equipment Malfunction; deleted by new bp.

Violation of Ambient Air Quality Standard; General Section

Registration Update; General Section

Existing Source Standard for Visible Emissions; streamlined by new SOP.

Existing Source Standard for Particulate Matter; streamlined by new SOP.

Existing Source Standard for Particulate Matter; Fuel Burning Equipment; streamlined by the new SOP

Existing Source Standard for Sulfur Dioxide; Fuel Burning Equipment; streamlined by the new SOP

Monitoring; now included in Section III as a requirement in the SOP permit.

Testing; now included in Section III, as a requirement in the SOP permit.

New Source Standard for Visible Emissions; streamlined by the new SOP.

Section XII of the old permit is now Section XIII; General Conditions. All conditions in this section have been updated to reflect new boilerplate language current for 2006.

The facility did not include a statement to the effect that there was no asbestos at the United States Gypsum facility, and therefore the asbestos condition, XIII.Y was included.

Section XIII of the old permit is now Section XIV; ‘State Only Enforceable Requirements’.

PUBLIC PARTICIPATION

The public participation requirements of 9 VAC 5-80-270 apply to significant permit modifications. The permit was placed on public notice in the Virginian-Pilot from Friday, March 30, 2007 to Monday, April 30, 2007.

EPA comment period began on March 30, 2007 (PN date) and ended on May 14, 2007 (PN date + 45 days).

North Carolina (affected state) notified of complete application.

**COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Tidewater Regional Office**

STATEMENT OF LEGAL AND FACTUAL BASIS

United States Gypsum Company, Incorporated
Norfolk, Virginia
Permit No. TRO-60234

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, United States Gypsum, Incorporated has applied for a Title V Operating Permit for its Norfolk facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

_____ Date: _____

_____ Date: _____

_____ Date: _____

FACILITY INFORMATION

Permittee

David O. Bunch
1001 Buchanan Street
Norfolk, Virginia 23523

Facility

United States Gypsum, Incorporated
1001 Buchanan Street
Norfolk, Virginia 23523

AFS ID No.: 51-710-00068

SOURCE DESCRIPTION

SIC Code: 3275 – Manufacture of gypsum rock products and gypsum wallboard from raw gypsum rock.

In the manufacturing of gypsum products, raw gypsum rock is received from ships and may be transported directly to the plant for processing or stockpiled. Normal operations are crushing and drying of the gypsum rock to make an intermediate product called landplaster, which is used as an amendment to soil. Further processing requires that the chemically bound water be driven off to make a stucco product. The process is as follows: $\text{CaSO}_4 : 2\text{H}_2\text{O} + 300^\circ\text{F} = \text{CaSO}_4 : 0.5\text{H}_2\text{O} + 1.5 \text{H}_2\text{O (vapor)}$. The dry stucco powder is recombined with water and other additives to make the wallboard product.

COMPLIANCE ASSURANCE MONITORING

All of the emission units at a Title V facility that have major levels of emissions for a pollutant must be considered for CAM applicability. U. S. Gypsum has several emissions units that when fired on #6 fuel oil, are considered major for emissions of Sulfur Dioxide. The five kettles (calciners) and the North and South board drying kilns are major for SO₂, but only when it is necessary to fire residual oil at the facility. Also, there are no controls for SO₂, so there is no CAM applicability. A survey of the facility calculations for PTE under all the possible fuel scenarios shows no major emissions units for TSP or PM₁₀. However, three permitted emission units have apparent uncontrolled emissions above the 100-ton threshold. The PTE for these units was calculated assuming a control efficiency of 99% for the fabric filters at the facility. These units can be found in the NSR permits for the dunnage machine, packing airveyor and the updated reclaim system. For units not subject to the Rule, periodic monitoring is appropriate.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description and Date of Manufacture	Size/Rated Capacity*	Fuel Type	Applicable Permit Date
Fuel Burning Equipment					
U1A	S2	#2 Calcining Kettle (USG design, 1947)	12 mmBtu/hour	Natural Gas	N/A
U1B	S2	#2 Calcining Kettle (USG design, 1947)	12 mmBtu/hour	#2 Fuel Oil	N/A
U1C	S2	#2 Calcining Kettle (USG design, 1947)	12 mmBtu/hour	#6 Fuel Oil	N/A
U2A	S13	#3 Calcining Kettle (USG design, 1947)	12 mmBtu/hour	Natural Gas	N/A
U2B	S13	#3 Calcining Kettle (USG design, 1947)	12 mmBtu/hour	#2 Fuel Oil	N/A
U2C	S13	#3 Calcining Kettle (USG design, 1947)	12 mmBtu/hour	#6 Fuel Oil	N/A
U3A	S15	#4 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	Natural Gas	N/A
U3B	S15	#4 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	#2 Fuel Oil	N/A
U3C	S15	#4 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	#6 Fuel Oil	N/A
U4A	S16	#5 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	Natural Gas	N/A
U4B	S16	#5 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	#2 Fuel Oil	N/A
U4C	S16	#5 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	#6 Fuel Oil	N/A
U5A	S17	#6 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	Natural Gas	N/A

U5B	S17	#6 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	#2 Fuel Oil	N/A
U5C	S17	#6 Calcining Kettle (USG design, 1955)	12 mmBtu/hour	#6 Fuel Oil	N/A
U6A	S3	#1 Raymond Mill Aux. Burner, Hauck Mfg. model WRC572ZX (prior to 1963)	4.5 mmBtu/hour	Natural Gas	N/A
U6B	S3	#1 Raymond Mill Aux. Burner, Hauck Mfg. model WRC572ZX (prior to 1963)	4.5 mmBtu/hour	#2 Fuel Oil	N/A
U6C	S3	#1 Raymond Mill Aux. Burner, Hauck Mfg. model WRC572ZX (prior to 1963)	4.5 mmBtu/hour	#6 Fuel Oil	N/A
U7A	S5	#3 Raymond Mill Aux. Burner, Hauck Mfg. model WR572 PRN 11912 (11/89)	4.5 mmBtu/hour	Natural Gas	N/A
U7B	S5	#3 Raymond Mill Aux. Burner, Hauck Mfg. model WR572 PRN 11912 (11/89)	4.5 mmBtu/hour	#2 Fuel Oil	N/A
U7C	S5	#3 Raymond Mill Aux. Burner, Hauck Mfg. model WR572 PRN 11912 (11/89)	4.5 mmBtu/hour	#6 Fuel Oil	N/A
U8A	S14	#5 Raymond Mill Aux. Burner, Hauck Mfg. model WR572 PRN 11912 (7/93)	4.5 mmBtu/hour	Natural Gas	N/A
U8B	S14	#5 Raymond Mill Aux. Burner, Hauck Mfg. model WR572 PRN 11912 (7/93)	4.5 mmBtu/hour	#2 Fuel Oil	N/A
U8C	S14	#5 Raymond Mill Aux. Burner, Hauck Mfg. model WR572 PRN 11912 (7/93)	4.5 mmBtu/hour	#6 Fuel Oil	N/A
U9A	S6	North Board Drying Kiln (USG design, 1955)	48 mmBtu/hour	Natural Gas	N/A
U9B	S6	North Board Drying Kiln (USG	48 mmBtu/hour	#2 Fuel Oil	N/A

		design, 1955)			
U10A	S21	South Board Drying Kiln (USG design, 1947)	48 mmBtu/hour	Natural Gas	N/A
U10B	S21	South Board Drying Kiln (USG design, 1947)	48 mmBtu/hour	#2 Fuel Oil	N/A
U11A	S1	Mixer Hot Water Boiler	3.3 mmBtu/hour	Natural Gas	N/A
U11B	S1	Mixer Hot Water Boiler	3.3 mmBtu/hour	#2 Fuel Oil	N/A
U12	S31	PST Heater, Hastings Heater MDH-423 model SBOF-112-3-423 (7/99)	0.7 mmBtu/hour	Natural Gas	N/A
U13A	S8	General Plant Boiler, Cleaver Brooks CBH 200-40 (8/7/85)	1.7 mmBtu/hour	Natural Gas	N/A
U13B	S8	General Plant Boiler, Cleaver Brooks CBH 200-40 (8/7/85)	1.7 mmBtu/hour	#2 Fuel Oil	N/A

Process Operations				
Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Applicable Permit Date
U1, Kettle	S32	#2 Calcining Kettle (USG design, 1947)	13 tons/hour – stucco	N/A
U2, Kettle	S9	#3 Calcining Kettle (USG design, 1947)	13 tons/hour - stucco	N/A
U3, Kettle	S4	#4 Calcining Kettle (USG design, 1955)	13 tons/hour - stucco	N/A
U4, Kettle	S4	#5 Calcining Kettle (USG design, 1947)	13 tons/hour - stucco	N/A
U5, Kettle	S4, S36	#6 Calcining Kettle (USG design, 1947)	13 tons/hour - stucco	N/A
U6, Mill	S3	#1 Raymond Mill 1947	20 tons/hour – crushed rock	N/A
U7, Mill	S5	#3 Raymond Mill 1947	25 tons/hour – crushed rock	N/A
U8, Mill	S14	#5 Raymond Mill 1947	20 tons/hour – crushed rock	N/A

U9, Kiln	S6	North Board Dryer Kiln 1947	100 feet/min gypsum board	N/A
U10, Kiln	S21	South Board Dryer Kiln 1947	100 feet/min gypsum board	N/A
U11, boiler	S1	Mixer Hot Water Boiler 1979	3.3 mmBtu/hour	N/A
U12, PST System	S31, S38	PST System 1978	40 tons/hour – stucco	N/A
U13, Boiler	S8	General Plant Boiler	1.7 mmBtu/hour	N/A
U14, Mill	S18	#2 Raymond Mill, 1947	20 tons/hour – crushed rock	N/A
U15, Mill	S4	#4 Raymond Mill, 1955	20 tons/hour – crushed rock	N/A
U16, Crusher	S7	Gypsum Rock Crusher	150 tons/hour–gypsum rock	May 27, 2003
U17, Tank	F11	Diesel Tank	1000 gallons	N/A
U18, Anh. System	F21	Anhydrite System	15 tons/hour	N/A
U19, Tank	F12	Gasoline Tank	1000 gallons	N/A
U20, Packer	S26	White Packer	7.5 tons/hour	N/A
U21, Packer	S27	Dark Packer	7.5 tons/hour	N/A
U22, Endsaw	S23	Endsaw	200 fpm line speed	N/A
U23, Belt	S11, S24	Board Stucco Cooling Tunnel Belt	50 tons/hour	May 24, 1994
U24, Machine	S10	Dunnage Machine	4 million ft ² /hour	April 5, 1994
U25, Mill	S25	Paper Fiber Mill	2 tons/hour	N/A
U26	none	REMOVED	REMOVED	REMOVED
U27, Unloader	S12	Sand and Lime Unloading System	14 tons/hour	May 24, 1994
U28, Airveyor	S28	White Pack Spill Airveyor	0.5 tons/hour	N/A
U29, Mill	S29	Tube Mill	100 tons/hour	N/A
U30, Unloader	S30	Perlite Unloading System	14 tons/hour	N/A
U31, Stockpile	F1	Dark Rock Stock Pile	50,000 tons – gypsum rock	N/A
U32, Stockpile	F2	White Rock Stock Pile	9,000 tons – gypsum rock	N/A
U33, Stockpile	F3	420 Stock Pile	40,000 tons-anhydrite rock	N/A
U34, Stockpile	F4	2 A Rock Stock Pile	9,000 tons	N/A
U35, Stockpile	F5	Gypsum Reclaim Stock Pile	120,000 tons - reclaim	N/A

U36, Belt	S7	Crushed Rock Belt	150 tons/hour	May 27, 2003
U37, Tank	F6	#6 Fuel Oil Tank	30,000 gallons	N/A
U38, Tank	F7	#4 Fuel Oil Tank	30,000 gallons	N/A
U39, Tank	F8	#2 Fuel Oil Tank	15,000 gallons	N/A
U40, Tank	F9	West Waste Oil Tank	2,500 gallons	N/A
U41, Tank	F10	East Waste Oil Tank	2,500 gallons	N/A
U42, Road Traffic	F13	Paved Road Traffic	N/A	N/A
U43, Mill	S35	HRA Ball Mill	0.6 tons/hour	July 28, 2000
U44, Airveyor	S37	Packing Airveyor	10.tons/hour	July 28, 2000
U45, Screen	F16	Trommel Screen	50 tons/hour	May 27, 2003
U46, Feeder	F17	Rock Hopper w/ Pan Feeder	150 tons/hour	N/A
U47, Belt	F18	Rock Incline Belt	150 tons/hour	May 27, 2003
U48, Feeder	F19	Reclaim Feeder	50 tons/hour	May 27, 2003
U49, Belt	F20	Reclaim Incline Belt	50 tons/hour	May 27, 2003
U50, Drag Chain	S27	Tube Mill Drag Chain	100 tons/hour	N/A
U51, Screw	S27	Bulk Stucco Screw	30 tons/hour	August 13, 2002
U52, Spout	S27	Bulk Stucco Loading Spout	30 tons/hour	August 13, 2002
U53, Hopper	F14	Ship Unloading Hopper w/ Pan Feeder	2000 tons/hour	September 18, 2002
U54, Conveyor	F15	Ship Unloading Conveyor System	2000 tons/hour	September 18, 2002
U55, Packer	S20	Anhydrite Packer	15 tons/hour	N/A
U56, Airveyor	S33, S34	Landplaster Airveyor	0.6 tons/hour	N/A

*The Size/Rated capacity and PCD efficiency is provided for informational purposes only, and is not an applicable requirement.

Pollution Control Equipment Consists of:

Pollution Control Equipment					
Unit Ref. No.	Stack No.	Control Equipment Description	Manufacturer and Date of Construction	PCD Efficiency	Pollutant
U1	S2	No control device	No control device	N/A	N/A
U1	S32	Fabric Filter	Flex Kleen Mod#84-WRB-160XL	99 %	TSP, PM10

U2	S13	None	No control device	N/A	N/A
U2	S9	Fabric Filter	Flex Kleen Mod#84-WRB-160XL	99 %	TSP, PM10
U3	S15	None	No control device	N/A	N/A
U3	S4	Cottrell ESP	Research Cottrell Type 8 G-15	95 %	TSP, PM10
U4	S16	None	No control device	N/A	N/A
U4	S4	Cottrell ESP	Research Cottrell Type 8 G-15	95 %	TSP, PM10
U5	S17	None	No control device	N/A	N/A
U5	S4	Cottrell ESP	Research Cottrell Type 8 G-15	95 %	TSP, PM10
U5	S36	Fabric Filter	Camcorp Model 3BHX9	99 %	TSP, PM10
U6	N/A	Cyclone	U. S. Gypsum design cyclone 1947	N/A	N/A
U6	S3	Fabric Filter	Flex Kleen Mod#84-WRT-192XL-IIIG	99 %	TSP, PM10
U7	N/A	Cyclone	U. S. Gypsum design cyclone 1947	N/A	N/A
U7	S5	S20	Flex Kleen Mod#84-WRT-192XL-III	99 %	TSP, PM10
U8	N/A	Cyclone	U. S. Gypsum design cyclone 1947	N/A	N/A
U8	S14	Fabric Filter	Airtrol, Inc. 195AW07	99 %	TSP, PM10
U9	S6	None	No control device	N/A	N/A
U10	S21	None	No control device	N/A	N/A
U11	S1	None	No control device	N/A	N/A
U12	S31	Fabric Filter	Flex Kleen Mod#84-TC-80KD-III	99 %	TSP, PM10
U12	S38	Fabric Filter	Kinetic-air Mod30-RSC-36	99 %	TSP, PM10
U13	S8	None	No control device	N/A	N/A
U14	S18	Fabric Filter	Flex Kleen Mod#84-WRT-192XL-IIIG	99 %	TSP, PM10
U14	N/A	Cyclone	U. S. Gypsum design cyclone 1947	N/A	N/A
U15	N/A	Cyclone	U. S. Gypsum design cyclone 1955	N/A	N/A
U15	N/A	Cyclone	U. S. Gypsum design cyclone 1955	N/A	N/A
U15	S4	Cottrell ESP	Research Cottrell Type 8 G-15	95 %	TSP, PM10
U16	S7	Fabric Filter	Flex Kleen Mod#84-BVBS-25-II	99 %	TSP, PM10
U17	F11	None	No control device	N/A	N/A
U18	F21	Fabric Filter	Flex Kleen Mod#120-WXBC-216-IIIG	99 %	TSP, PM10
U19	F12	None	No control device	N/A	N/A
U20	S26	Fabric Filter	Flex Kleen Mod#TBR84-WMWC-150-III	99 %	TSP, PM10
U21	S27	Fabric Filter	Flex Kleen Mod#TBR84-WRBC-144-IIIG	99 %	TSP, PM10
U22	S22	Fabric Filter	Flex Kleen Mod#84-WRBS-96-II	99 %	TSP, PM10

U22	S23	Fabric Filter	Flex Kleen Mod#84-WRWS-96-IIG	99 %	TSP, PM10
U23	S24	Fabric Filter	Flex Kleen Mod#84-BVBCS-36-III	99%	TSP, PM10
U23	S11	Fabric Filter	Flex Kleen Mod#84-WSBS-49-IIIG	99 %	TSP, PM10
U24	S10	Fabric Filter	Flex Kleen Mod#100-WMWC-120-III	99 %	TSP, PM10
U25	S25	Fabric Filter	Flex Kleen Mod#84-WSWC-81-XL-III	99 %	TSP, PM10
U25	N/A	Cyclone	U. S. Gypsum design cyclone	N/A	N/A
U27	S12	Fabric Filter	Flex Kleen Mod#100-C7BS-32-I	99 %	TSP, PM10
U28	S28	Fabric Filter	Semco Model#VF-80, SN 870778	99 %	TSP, PM10
U29	S29	Fabric Filter	Seneca Model#132-IMTS-10	99 %	TSP, PM10
U30	S30	Fabric Filter	Flex Kleen Mod#WSWS-64-II, SN E33009	99 %	TSP, PM10
U31	F1	None	No control device	N/A	N/A
U32	F2	None	No control device	N/A	N/A
U33	F3	None	No control device	N/A	N/A
U34	F4	None	No control device	N/A	N/A
U35	F5	None	No control device	N/A	N/A
U36	S7	Fabric Filter	Flex Kleen Mod#84-BVBS-25-II	99 %	TSP, PM10
U37	F6	None	No control device	N/A	N/A
U38	F7	None	No control device	N/A	N/A
U39	F8	None	No control device	N/A	N/A
U40	F9	None	No control device	N/A	N/A
U41	F10	None	No control device	N/A	N/A
U42	F13	None	No control device	N/A	N/A
U43	S35	Fabric Filter	Flex Kleen Mod#84-BVBC-16	99 %	TSP, PM10
U44	S37	Fabric Filter	Smoot Co. Mod#60-BV-25	99 %	TSP, PM10
U44	N/A	Cyclone	Smoot Co. Cyclone	N/A	N/A
U45	F16	None	No control device	N/A	N/A
U46	F17	None	No control device	N/A	N/A
U47	F18	None	No control device	N/A	N/A
U48	F19	None	No control device	N/A	N/A
U49	F20	None	No control device	N/A	N/A
U50	S27	Fabric Filter	Flex Kleen Mod#84-WRBC-144-IIIG	99 %	TSP, PM10
U51	S27	Fabric Filter	Flex Kleen Mod#84-WRBC-144-IIIG	99 %	TSP, PM10
U52	S27	Fabric Filter	Flex Kleen Mod#84-WRBC-144-IIIG	99 %	TSP, PM10

U53	F14	Wet Misting System	U. S. Gypsum design misting system	60 %	TSP, PM10
U54	F15	None	No control device	N/A	N/A
U55	S20	Fabric Filter	Flex Kleen Mod#84-BVBS-25-II	99 %	TSP, PM10
U56	S34	Fabric Filter	Smoot Co. Mod#36BV25	99 %	TSP, PM10
U56	S33	Fabric Filter	Smoot Co. Mod#36-BV1	99 %	TSP, PM10

*The Size/Rated capacity and PCD efficiency is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the emissions for the 2002 emissions statement is attached. Emissions are summarized in the following tables. Emissions from the small boiler are not included here.

2002 Actual Emissions

Emission Unit	2002 Criteria Pollutant Emissions in Tons per Year					
	VOC	CO	SO ₂	*PM ₁₀	NO _x	Lead(Pb)
Facility	1.485	5.821	0.163	105.693	28.015	0.0
Total	1.485	5.821	0.163	105.693	28.015	0.0

* PM2.5 emissions were identical to the PM10 emissions above.

2002 Facility Hazardous Air Pollutant Emissions

Pollutant	2002 Hazardous Air Pollutant Emission in Tons/Yr
There are no HAP Emissions	0.0

EMISSION UNIT APPLICABLE REQUIREMENTS – Dunnage Machine [U-24]

Limitations

Following are limitations from the existing NSR permit issued April 5, 1994:

- Condition 3: describes the control technology for particulate emissions.
- Condition 4: requiring test ports; Facility Wide Condition.
- Condition 5: establishes throughput limit for dunnage.
- Conditions 6 and 7: limiting criteria pollutant emissions and visible emissions.
- Condition 9: revoking and/or modifying permits; conditions for; General Condition.
- Condition 10: Entry requirements for regulating authorities; General Condition.
- Condition 11: facility or control equipment malfunction; Facility Wide Condition.

Monitoring – Condition III.B. requires CAM monitoring for the dunnage machine U-24/S10.

Recordkeeping

Following are recordkeeping requirements from the existing NSR permit issued April 5, 1994.

- Conditions 8, 12 and 13: recordkeeping requirements.
- Title V Condition III.C.b. requires CAM documentation

Reporting – Title V Condition III.D. lists the requirements for CAM reporting.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

- 9 VAC 5-50-80: New Source Standard for Visible Emissions

Streamlined Requirements

There are no streamlined conditions for this permit.

EMISSION UNIT APPLICABLE REQUIREMENTS – Sand and Lime Unloading [U-23 and U-27]

Limitations

Following are limitations from the existing NSR permit issued May 20, 1994:

- Condition 3: describes the control technology for particulate emissions.
- Condition 4: establishes throughput limit for sand and lime unloading.
- Condition 5: establishes throughput limit for cooling belt system.
- Conditions 6 and 7: limiting criteria pollutant emissions and visible emissions.
- Condition 8: requiring test ports; Facility Wide Condition.
- Condition 10: revoking and/or modifying permits; conditions for; General Condition.
- Condition 11: Entry requirements for regulating authorities; General Condition.
- Condition 12: facility or control equipment malfunction; Facility Wide Condition.

Recordkeeping

Following are recordkeeping requirements from the existing NSR permit issued May 20, 1994.

- Conditions 9, 13 and 14: recordkeeping requirements.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

- 9 VAC 5-50-80: New Source Standard for Visible Emissions

Streamlined Requirements

There are no streamlined conditions for this permit.

EMISSION UNIT APPLICABLE REQUIREMENTS – Packing Airveyor [U-43 and U-44]

Limitations

Following are limitations from the existing NSR permit issued July 28, 2000:

- Condition 3: describes the control technology for particulate emissions.
- Conditions 6 and 7: limits throughput for the equipment.
- Conditions 8, 9 and 10: limiting criteria pollutant emissions and visible emissions.
- Condition 19: revoking and/or modifying permits; conditions for; General Condition.
- Condition 14: Entry requirements for regulating authorities; General Condition.
- Conditions 15 and 16: facility or control equip. maintenance or malfunction; Facility Wide Condition.

Monitoring

- Conditions 4 and 5: describe monitoring devices and methods.
- Title V Condition V.B.1. requires CAM monitoring for the packing airveyor U44/S37.

Recordkeeping

Following are recordkeeping requirements from the existing NSR permit issued July 28, 2000

- Conditions 11 and 18: recordkeeping requirements.
- Title V Condition V.C.1. requires CAM documentation.

Reporting - Title V Condition V.D. lists the requirements for CAM reporting

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-80: New Source Standard for Visible Emissions

Streamlined Requirements

There are no streamlined conditions for this permit.

EMISSION UNIT APPLICABLE REQUIREMENTS – Stucco Loadout [U-51 and U-52]

Limitations

Following are limitations from the existing NSR permit issued August 13, 2002:

Condition 3: describes the control technology for particulate emissions.

Condition 6: establishes throughput limit for stucco loadout.

Conditions 7: limiting visible emissions.

Condition 11: Entry requirements for regulating authorities; General Condition.

Condition 12 and 13: facility or control equip. maintenance or malfunction; Facility Wide Condition.

Condition 16: revoking and/or modifying permits; conditions for; General Condition.

Condition 18: Registration Update requirements for; Facility Wide Condition.

Monitoring and Recordkeeping

Following are recordkeeping requirements from the existing NSR permit issued May 20, 1994.

Conditions 4 and 5: describe monitoring devices and methods.

Conditions 8 and 15: recordkeeping requirements.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-80: New Source Standard for Visible Emissions

Streamlined Requirements

There are no streamlined conditions for this permit.

EMISSION UNIT APPLICABLE REQUIREMENTS – Ship Unloading System [U-53 and U-54]

Limitations

Following are limitations from the existing NSR permit issued September 18, 2002:

Condition 3: describes the control technology for particulate emissions.

Condition 4: establishes throughput limit for ship unloading system.

Conditions 5: limiting visible emissions.

Condition 9: Entry requirements for regulating authorities; General Condition.

Condition 10 and 11: facility or control equip. maintenance or malfunction; Facility Wide Condition.

Condition 14: revoking and/or modifying permits; conditions for; General Condition.

Condition 16: Registration Update requirements for; Facility Wide Condition.

Recordkeeping

Following are recordkeeping requirements from the existing NSR permit issued September 18, 2002.

Conditions 6 and 13: recordkeeping requirements.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-80: New Source Standard for Visible Emissions

Streamlined Requirements

There are no streamlined conditions for this permit.

EMISSION UNIT APPLICABLE REQUIREMENTS – Updated Reclaim System [U-16, U-36, U-45, U-47, U-48 and U-49]

Limitations

Following are limitations from the existing NSR/NSPS permit issued May 27, 2003:

Condition 3: describes the control technology for particulate emissions.

Condition 4: limiting fugitive dust emissions; controls.

Conditions 7, 8, and 9: limits throughput for rock crusher, trommel screen and reclaim clay feeder.

Condition 10: Establishes the NSPS Standard for particulate matter emissions.

Conditions 11, 12, 13 and 14: limiting criteria pollutant emissions and visible emissions.

Condition 15: Requirements by Reference; NSPS Subpart OOO is applicable.

Conditions 20 and 21: facility or control equip. maintenance or malfunction; Facility Wide Condition.

Condition 18: Permit Invalidation; continuous construction required; 18 month limit.

Condition 19: Entry requirements for regulating authorities; General Condition.

Condition 24: revoking and/or modifying permits; conditions for; General Condition.

Condition 26: Registration Update requirements for; Facility Wide Condition.

Recordkeeping and Monitoring

Following are recordkeeping and monitoring requirements from the existing NSR permit issued May 27, 2003.

Conditions 5 and 6: describe monitoring devices and methods.

Conditions 16, and 23: describes on-site and maintenance recordkeeping requirements.

Title V Condition VIII.B.1. requires CAM monitoring for the rock crusher U16/S7.

Notifications and Reporting

Following are notification requirements from the existing NSR permit issued May 27, 2003.

Condition 17: Initial Notification; installation/startup/testing of NSPS equipment.

Title V Condition V.D. lists the requirements for CAM reporting

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-80: New Source Standard for Visible Emissions

Streamlined Requirements

There are no streamlined conditions for this permit.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement NO. 3-2001”.

This general condition cite(s) the Article(s) that follow(s):

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

9 VAC 5-80-80. Application

9 VAC 5-80-140. Permit Shield

9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

J. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1790. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation, see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

9 VAC 5-80-110. Permit Content

STATE ONLY APPLICABLE REQUIREMENTS

The state-only applicable requirements for this facility are found in the State Only Section of the permit and describe the standards for odor and toxic pollutants:

9 VAC 5-50-140 Standard for Odorous Emissions, and

9 VAC 5-60-320 Standard for Toxic Pollutants

FUTURE APPLICABLE REQUIREMENTS

There are no future applicable requirements.

INAPPLICABLE REQUIREMENTS

Tanks previously subject only to recordkeeping and reporting under 40 CFR 60, Subpart Kb have been exempted by EPA's recent amendment of Subpart Kb (see Wednesday, October 15, 2003, Federal Register, attached). The facility also reported other inapplicable requirements as listed below:

Citation	Title of Citation	Description of Applicability
40 CFR 60.730, Subpart UUU	Standards of Performance for Calciners and Dryers in Mineral Industries	Units U-1, U-2, U-3, U-4 and U-5 are not subject to this part. Constructed before 4-23-86.
40 CFR 60.672, Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants	Units U-6, U-7, U-8, U-14 and U-15 are not subject to this part. Constructed before 8-31-83.
40 CFR 60.730, Subpart UUU	Standards of Performance for Calciners and Dryers in Mineral Industries	Units U-9 and U-10 are not subject to this part. Tunnel dryers are exempt.
40 CFR 52	New Source Review	There are no modifications to the plant at this time.
9 VAC 5-50, Article 3 9 VAC 5-40, Article 3	Standards for Toxic Pollutants	The U.S. Gypsum facility does not emit toxic pollutants above the exemption levels.

COMPLIANCE PLAN

There is no compliance plan for this facility.

INSIGNIFICANT EMISSION UNITS

The following units have been identified as insignificant:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
U-11A	Mixed Hot Water Boiler – Natural Gas	9 VAC 5-80-720B	NOx, SO ₂ , PM ₁₀ , VOC, CO	less than 5 mmBtu per hour
U-11B	Mixed Hot Water Boiler - #2 fuel oil	9 VAC 5-80-720B	NOx, SO ₂ , PM ₁₀ , VOC, CO	less than 5 mmBtu per hour
U-12	PST System Heater	9 VAC 5-80-720B	NOx, PM ₁₀ , VOC, CO	less than 5 mmBtu per hour
U-13A	General Plant Boiler – Natural Gas	9 VAC 5-80-720B	NOx, PM ₁₀ , VOC, CO	less than 5 mmBtu per hour
U-13B	General Plant Boiler - #2 fuel oil	9 VAC 5-80-720B	NOx, SO ₂ , PM ₁₀ , VOC, CO	less than 5 mmBtu per hour
U-17	Diesel Tank	9 VAC 5-80-720B	VOC	1000 gallons
U-18	Anhydrite System	9 VAC 5-80-720B	PM ₁₀	15 tons per hour
U-19	Gasoline Tank	9 VAC 5-80-720B	VOC	1000 gallons
U-37	#6 Fuel oil tank	9 VAC 5-80-720B	VOC	30,000 gallons
U-38	#4 Fuel oil tank	9 VAC 5-80-720B	VOC	30,000 gallons
U-39	#2 Fuel oil tank	9 VAC 5-80-720B	VOC	15,000 gallons
U-40	West waste oil tank	9 VAC 5-80-720B	VOC	2500 gallons
U-41	East waste oil tank	9 VAC 5-80-720B	VOC	2500 gallons
U-42	Paved Roads	9 VAC 5-80-720B	PM and PM ₁₀	N/A

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Virginian Pilot from
[date] to [date] .

**United States Gypsum
Norfolk, VA**

COMPLIANCE ASSURANCE MONITORING
PLAN
Registration No. 60234

I. Background

A. Emission Unit

Description:	Dunnage Machine, U-24, Packing Airveyor, U-44 and Rock Crusher, U-16
Identification	S10, S37 and S7 fabric filter stacks
Facility:	Norfolk Board Plant Norfolk, VA

B. Applicable Regulations, Emission Limit, and pre-CAM Monitoring Requirements

Regulation:	9 VAC 5-50-260
CAM Emission Limits	U-24/S10 = 1.5 lbs/hour PM/PM10 U-44/S37 = 0.6 lbs/hour PM U-16/S7 = 0.8 lbs/hour PM, 0.4 lbs/hr PM10, and Particulate Matter: 0.01 gr/dscf, PM-10: 0.01 gr/dscf
Pre CAM Monitoring	U-24: Visible emissions from exhaust stack shall not exceed 5% Opacity as determined by EPA Method 9. U-44 – 5% opacity and U-16 – 7% opacity.

C. Control Technology, Capture System, Bypass, and PTE

Controls:	S10 - Dust Filter, pulse air bag cleaning fabric filter; S37 – Dust Filter, pulse air bag cleaning fabric filter, S7 – Dust Filter, pulse air bag cleaning fabric filter.
Capture System:	Continuous duct-closed system
Bypass:	None
PTE Before Controls:	Dunnage Machine – 660 TPY (Assumed 99% coll. eff.) Packing Airveyor – 260 TPY (Assumed 99% coll. eff.) Rock Crusher – 140 TPY (Assumed 99% coll. eff.)
PTE After Controls:	Dunnage Machine – 6.6 TPY Packing Airveyor – 2.6 TPY Rock Crusher – 1.4 TPY

Attachment A

II Monitoring Approach

A. Indicators

Visible emissions will be used as an indicator. Normal process operations will not produce conditions that adversely affect the fabric filters, so no process operational parameters will be monitored.

B. Measurement Approach

Visible emissions from the fabric filter exhaust will be monitored daily using EPA Method 22. A one-minute observation will be performed and the results recorded in a logbook by the observer.

C. Indicator Range

An excursion is defined as the presence of visible emissions.

D. Performance Criteria

Data Representation:	Measurements are being made at the point of emission (fabric filter exhaust).
QA/QC Practices and Criteria:	The observer will be familiar with Reference Method 22 and follow Method 22–like procedures.

III Response to Excursion

- A. Upon noting visible emissions, the observer will immediately notify maintenance to inspect the fabric filter, and control center to slow down production as feasible. Maintenance personnel will inspect the baghouse within 4 hours of receiving notification and make needed repairs as soon as practicable. Operations will return to normal upon completed corrective action.
- B. QIP Threshold: Five excursions in a six-month reporting period.

JUSTIFICATION

Background

The pollution specific units are “Dunnage Machine, Packing Airveyor and Rock Crusher” (Emission Units U24, U44 and U16). The fabric filter exhausts have the stack designations as S10, S37 and S7 respectively. The dunnage machine is controlled by a Flex Kleen Mod# 100WMWC-120-III fabric filter unit with 120 bags that filters approximately 8,670 CFM of air. The packing airveyor is controlled by a Smoot Co. Mod#60-BV-25 fabric filter unit with 25 bags that filters approximately 800 CFM of air and the rock crusher is controlled by a Flex Kleen Mod#84-BVBS-25-II fabric filter unit with 25 bags that filters approximately 1300 cfm. All the gypsum processing equipment has a continuous duct-closed-system to the fabric filters. There is no means for the control equipment to be bypassed.

Rationale for Selection of Performance Indicators

Visible emissions was selected as the performance indicator because it is indicative of good operation and maintenance of fabric filters. When the fabric filters are operating properly, there will not be any visible emissions from the exhaust. Any detectable visible emissions indicates reduced performance of a particulate control device; therefore, the presence of visible emissions is used as a performance indicator.

Rational for Selection of Indicator Ranges

The selected indicator range is 0% to 5%, i.e., any detectable visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of 0% to 5% visible emissions was selected because: (1) any detectable visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired. Although RM-22 applies to fugitive sources, the visible/NO visible emissions observation technique of RM-22 can be applied to ducted emissions: i.e., Method 22-like observations.

The selected QIP threshold for baghouse visible emissions is five excursions in a six-month reporting period. This level is approximately 3% of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.